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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,135	11/19/2003	Rongxin Pan	USP2293C-DRSH	9079
30265	7590	10/09/2007		
RAYMOND Y. CHAN 108 N. YNEZ AVE., SUITE 128 MONTEREY PARK, CA 91754			EXAMINER WALFORD, NATALIE K	
			ART UNIT 2879	PAPER NUMBER
			MAIL DATE 10/09/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/718,135

Applicant(s)

PAN ET AL.

Examiner

Natalie K. Walford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 13, 2007 has been entered.

### ***Response to Amendment***

The Amendment, filed on July 13, 2007, has been entered and acknowledged by the Examiner. Cancellation of claims 28-30 has been entered. Newly added claims 31-34 has been entered. Claims 31-34 are pending in the instant application.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Skwirute et al. (US 4,300,073).

Regarding claim 31, Skwirut discloses an illuminable unit (item 12) in figures 2 and 3, comprising: a light tube (item 14) having a spirally-shaped light body and two end portions

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downwardly and integrally extended therefrom (see FIG. 2), wherein said two end portions of said light tube are parallelly extended from said light body in a vertical extending manner (see FIG. 2), wherein said light tube further has a light cavity containing a mercury source (column 6, lines 20-24) and being filled with inert gas (column 6, lines 24-26), and a phosphor layer coated on an inner wall of said light tube (column 5, lines 1-2 and column 6, lines 33-58); a conductor enclosure (items 33 or 34), which has a length approximately equal to a length of each said end portion of said light tube (see FIG. 2), wherein a bottom end of said respective end portion is mounted and sealed to said conductor enclosure at a position that an upper head portion of said conductor enclosure is coaxially received within said respective end portion of said light tube to substantially reduce an overall height of said illuminable unit (see FIG. 2), wherein said conductor enclosure has an inner gas exhausting passage (items 39 or 40) communicating with said light cavity; a cathode terminal (items 35 or 36) which is strategically received in said spirally-shaped light body at a predetermined angle of inclination consistent with an angle of inclination of said spirally-shaped light body (see FIG. 2), wherein said cathode terminal supported in said light body to space apart from said conductor enclosure mounted at said bottom end of said respective end portion of said light tube; and a conductor wire (items 37 or 38) having a first section electrically extended from said cathode terminal along said spirally-shaped light body to said conductor enclosure at said corresponding end portion of said light tube (see FIG. 2), and a second section extended along said conductor enclosure for electrifying said mercury source, wherein said second section of said conductor wire is arranged to extend along a longitudinal direction of said corresponding end portion of said light tube within said conductor enclosure (see FIG. 2), in such a manner that an overall length of said conductor wire is

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maximized within a confined space of said light tube and said conductor enclosure, while minimizing an overall length of said vertically extending end portion of said light tube (see FIG. 2), so that said light tube is capable of effectively and efficiently generating illumination while keeping said light tube and said conductor enclosure compact (see FIG. 2).

Regarding claim 33, Skwirut discloses the illuminable unit, as recited in claim 31, wherein said mercury source is amalgam contained in said light tube (column 6, lines 20-32).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skwirut et al. (US 4,300,073) in view of Ge et al. (US 6,515,433).

Regarding claim 32, Skwirut discloses the illuminable unit, as recited in claim 31, but does not expressly disclose that said mercury source is liquid mercury contained in said light tube, as claimed by Applicant. Ge is cited to show an illuminable unit in figure 29 that contains liquid mercury (column 16, lines 2-3). Ge teaches that liquid mercury, at higher temperatures, more mercury will vaporize (column 16, lines 3-4).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Skwirut's invention to include said mercury source is liquid mercury contained in said light tube as suggested by Ge for more mercury vaporizing.

Regarding claim 34, the combined reference of Skwirut and Ge disclose the illuminable unit, as recited in claim 32, wherein said mercury source is amalgam contained in said light tube (Skwirut; column 6, lines 20-32).

### ***Response to Arguments***

Applicant's arguments filed July 13, 2007 have been fully considered but they are not persuasive. The Examiner respectfully disagrees with Applicant's arguments. The Examiner first points to figure 2 of Skwirut, which shows a light tube (item 12) has a first and second section (see two ends extending upward). The conductor wires (items 37 or 38) both have first and second sections as well (see inside of tube). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Ge clearly discloses that liquid mercury will vaporize better. Hence, Applicant's limitations are met.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalie K. Walford whose telephone number is (571)-272-6012. The examiner can normally be reached on Monday-Friday, 8 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571)-272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

nkW

*[Handwritten signature]*  
10/11/07

*Sikha Roy*  
SIKHA ROY  
PRIMARY PATENT EXAMINER